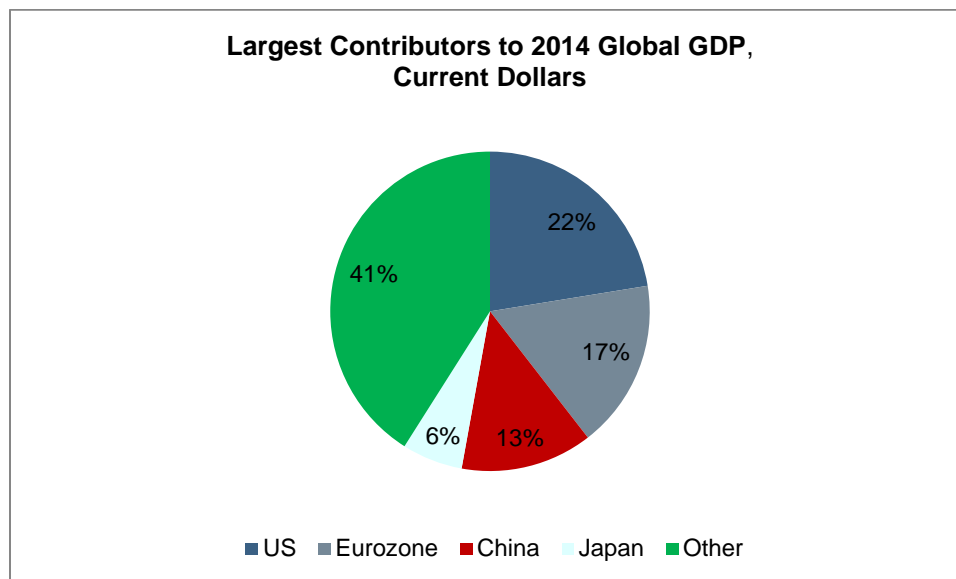

SUMMARY

In this global investment thematic report, we analyze reasons for the recent sharp drop in the price of oil. We present our thoughts on whether the price of oil is likely to stay at the currently low levels or to reverse the trend in 2015. In our opinion, the price will start increasing by the end of 2015, or even earlier, as the oversupply of oil on the market subsides. While we will not talk about individual trades that we made based on this opinion, we can state that the trend reversion is likely to benefit equity exchange traded funds (ETFs) of oil-exporting developed, emerging and frontier countries. Many of these ETFs are trading at low valuations compared to their historical norms.

PART 1. ECONOMIC THEMES IN OUR DECISION MAKING PROCESS

At Beyond Borders Investment Strategies, we are concentrating on building portfolios from equity ETFs of individual countries. We invest in equity ETFs of both large and small countries. We carefully analyze economic, financial, regulatory and other developments in these countries, but we also recognize that often there are thematic influences that affect more than one country. Sometimes these influences might be due to high or low energy prices, as they are now. These thematic influences could also originate in the economies of the largest countries and affect economies of other countries. For example, in order to forecast performance of smaller economies and their equity markets, we often concentrate on forecasting performance of the top three countries (US, China and Japan) and one economic bloc (Eurozone) that together are responsible for almost 60% of the world's gross domestic product (GDP) (see **Chart 1**). These four economies are the only ones that are responsible for more than 5% of the global GDP each.

Chart 1. Largest Contributors to 2014 Global GDP, Current Dollars



Source: The International Monetary Fund (IMF), World Economic Outlook database, October 2014.

There are five major economic and investment questions that we are focusing on at the beginning of 2015 that help us develop asset allocation of our client portfolios.

1. Will the price of oil stay low in 2015 and beyond, or will it reverse its current trend and start increasing?
2. Will the US economic growth be so strong in 2015 that the US Federal Reserve Bank starts increasing its interest rates?
3. Will the European Central Bank be successful in stimulating growth in the Eurozone?
4. Will the West and Russia come to some kind of peaceful resolution of the crisis in Ukraine?
5. Will the Abenomics work in Japan to stimulate growth in this country's economy and outside of it?

In this report, we will explain our thinking on the first question, "Will the price of oil stay low in 2015 and beyond, or will it reverse its current trend and start increasing?"

PART 2: THE CURRENT OIL OVERSUPPLY AND REASONS FOR IT

A. RAPID DROP OF THE PRICE OF OIL SINCE JUNE 2014

During a little over six months, since June 20, 2014 to December 31, 2014, the Brent crude oil price, which is used to price two thirds of the world's internationally traded crude oil supplies, dropped from \$114.29 to \$58.69, or by almost 49%.¹ The West Texas Intermediate (WTI), the North American benchmark oil price rate, declined by more than 48% from \$107.23 to \$55.58.

These declines became a surprise stimulus for consumers in most economies around the world, especially in oil-importing countries. Indeed, when a person or a company can pay almost 50% less for his or her gas, they can spend this extra money on buying goods or services or investing them in growing their businesses. However, there are also some losers of the lower oil prices. They are mostly energy producers, such as companies (e.g. ExxonMobil and Total S.A.), US states (e.g. Texas and North Dakota) and countries (e.g. Canada, Saudi Arabia and Russia). In addition, producers and installers of systems using other energy sources, such as alternative energy, gas, and coal, and suppliers to the energy industry, are also likely to lose from the low oil price as prices of energy that they generate are related to the price of oil. Prices of energy from all sources are correlated with the price of oil, but on average, consumers, non-energy companies (e.g. Samsung and Boeing) and oil importing economies (e.g. Germany, Japan, India and Korea) are beneficiaries of low oil prices.

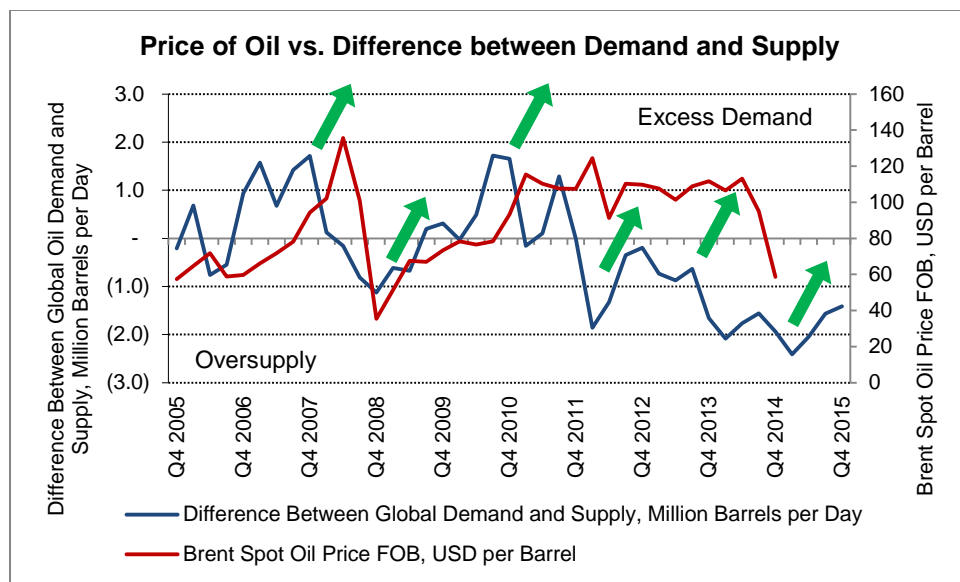
B. OIL OVERSUPPLY SINCE 2011 TO TODAY

The major reason for the decline of the price of oil has been a global oversupply of oil that started in the Q4 2011 (see **Chart 2**). As one can see from the chart, increases in demand for oil versus supply led to the price of oil increases, while increases in the oil supply (versus demand) led to the price of oil declines. Difference between the global oil demand and supply is a leading indicator for the price of oil (see **Chart 2**). The global oil supply

¹ Source: Datastream. Both prices are quoted "FOB", which stands for "Free on Board" to a central delivery point or without consideration of final delivery costs. For Brent, which initially stood for just oil from Brent oil field in the North Sea, this delivery point is Sullom Voe, one of Shetland Islands north of Scotland. For the WTI, the delivery point is Cushing, Oklahoma.

and demand forecasts from the US Energy Information Administration demonstrate that the decreasing oversupply will likely cause the price of oil to increase during the second half of 2015.

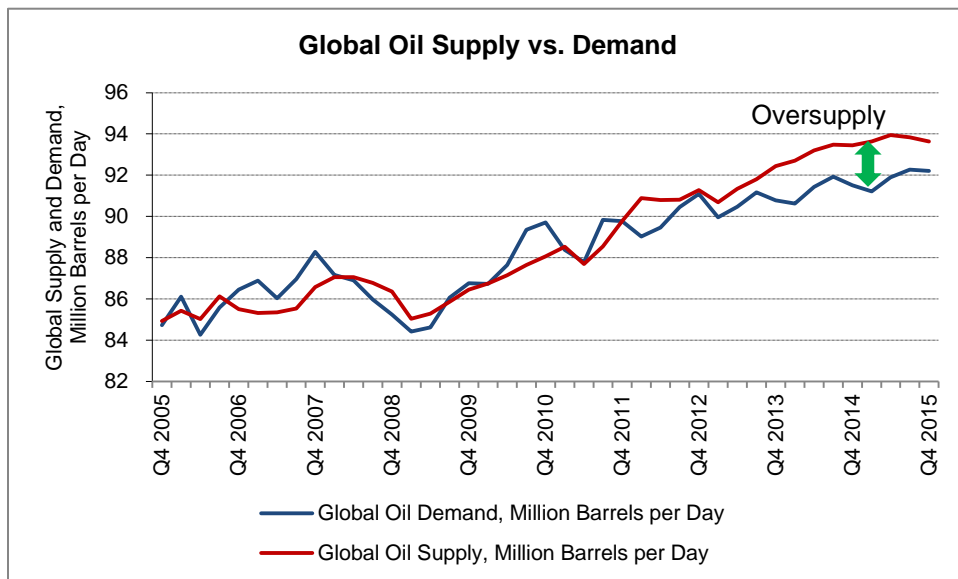
Chart 2. Oil Price versus Difference between Demand and Supply



Sources: Datastream - for the Brent price of oil. The US Energy Information Administration (EIA) - for the global demand and supply numbers. Data are from Q4 2005 to Q4 2015.

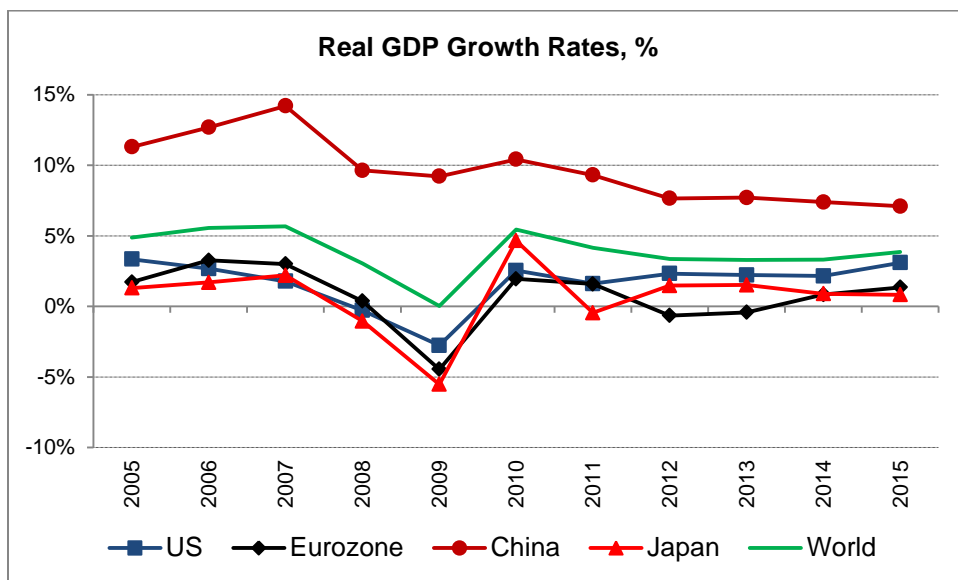
Chart 3 demonstrates that the oversupply of oil started in the Q4 2011. The two main reasons for the oversupply were the economic growth slowing of the global economy and an increased oil supply. The first driver of the oversupply, the economic slowdown of the global economy in 2011 and 2012, was caused by the gradual decline in the growth rates of the Chinese and US economies, while the economies of the Eurozone and Japan simply gaped down (see **Chart 4**). The Eurozone’s economy had negative growth rates beyond 2012, until 2013.

Chart 3. Global Oil Demand vs. Supply, Million Barrels per Day



Source: The US Energy Information Administration (IEA) for the global demand and supply numbers. Data are from Q4 2005 to Q4 2015.

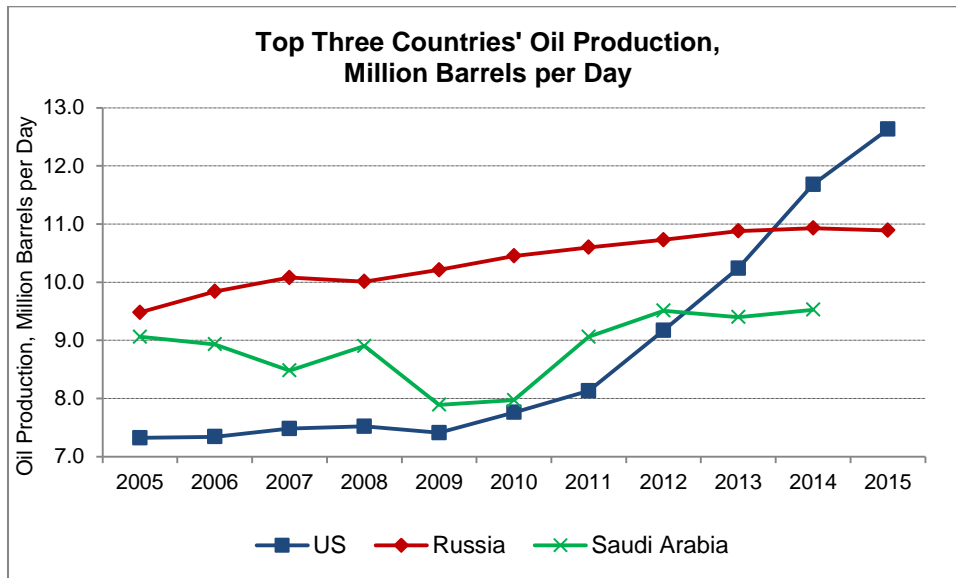
Chart 4. Real GDP Growth Rates of the World's Largest Economies, %



Source: The International Monetary Fund (IMF), World Economic Outlook database, October 2014. Data are from December 31, 2005 to December 31, 2015.

The second reason for the oil oversupply was the increased supply of oil. As one can see from **Chart 3**, while the oil demand was choppy, its supply was much smoother since 2008. The main reason for this has been an increased production from the US when the country's firms started hydraulic fracturing ("fracking") and horizontal drilling to produce natural gas and oil. As **Chart 5** shows, the US surpassed Russia and Saudi Arabia as the world's largest producer of oil in 2014.

Chart 5. Top Three Countries' Oil Production, Million Barrels per Day



Source: The International Energy Agency (IEA), Oil Market Reports. Data are from December 31, 2005 to December 31, 2015. The IEA does not report forecasts of oil production for Saudi Arabia or any other OPEC countries.

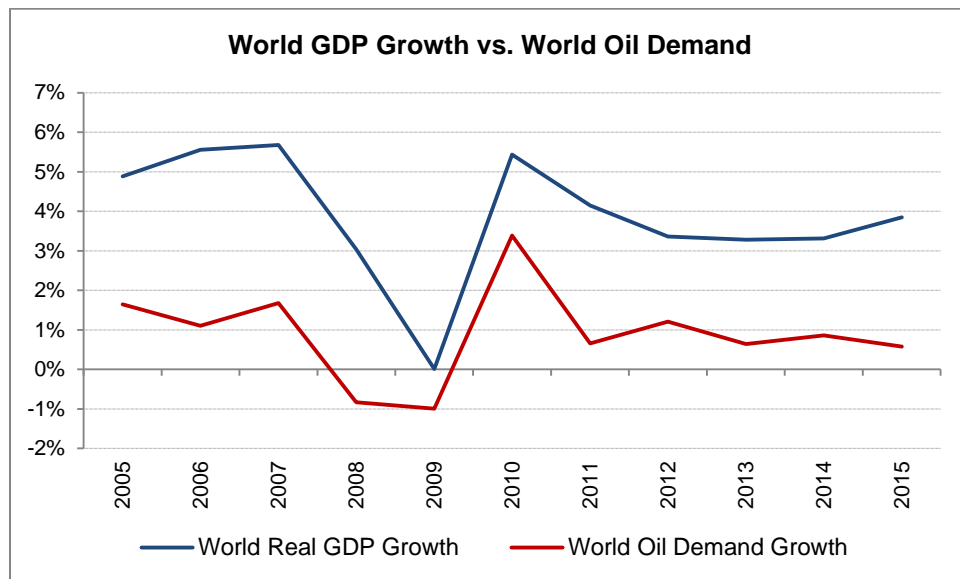
PART 3: FORECAST DECREASE IN OIL OVERSUPPLY SINCE SECOND HALF OF 2015

We believe that by the end of 2015, the global oversupply will decline due to the combination of the increase in the global demand for oil and, maybe more importantly, decrease in the production of oil.

1. FORECAST OF INCREASING OIL DEMAND

As one can see from **Chart 6**, the International Monetary Fund (IMF) forecasts that the world's GDP is going to increase in 2015 to 3.8% from 3.4% in 2014. This increase in economic growth would require more oil. The International Energy Agency (IEA) forecasts that the world's oil demand is going to increase by 0.6%. The pickup in the oil demand is going to be positive, but not as robust as it would have been in absence of oil oversupply that the world's economy would have to work through. As one can see from **Chart 6**, the world's GDP growth and oil demand are very strongly correlated. From 2005 to 2014, the correlation between the world's GDP growth and oil demand was 78%; therefore, there is an almost 80% chance that the oil demand is going to increase if the world's GDP growth is positive.

Chart 6. World Real GDP Growth vs. World Oil Demand, %



Sources: GDP Data: The International Monetary Fund, World Economic Outlook database, October 2014. Oil Demand Data: The US Energy Information Administration (EIA.) Data from December 31, 2005 to December 31, 2015.

2. FORECAST OF DECREASING OIL SUPPLY

We believe that the decrease in the global oil supply is going to have an even stronger impact on the price of oil. Due to the currently low prices of oil, the production is likely to decrease. This would lead to higher prices by the end of 2015. We believe that the US and Russian 2015 forecasts of oil production made by the International Energy Agency (IEA) (see **Chart 5**) are too optimistic. In our opinion, the US and Russia’s production volumes in 2015 will be lower than forecasted by the IEA and, likely, lower than the 2014 volumes. In absence of any OPEC production cuts, the oil production of Saudi Arabia would be in line with the country’s 2014 volume. Contrarily, with an OPEC production cut, the oil production would drop compared to the 2014 volume.

A. US (1ST LARGEST OIL PRODUCER): PRODUCTION IS LIKELY TO DROP

a. SHALE OIL PRODUCTION COSTS ARE HIGH

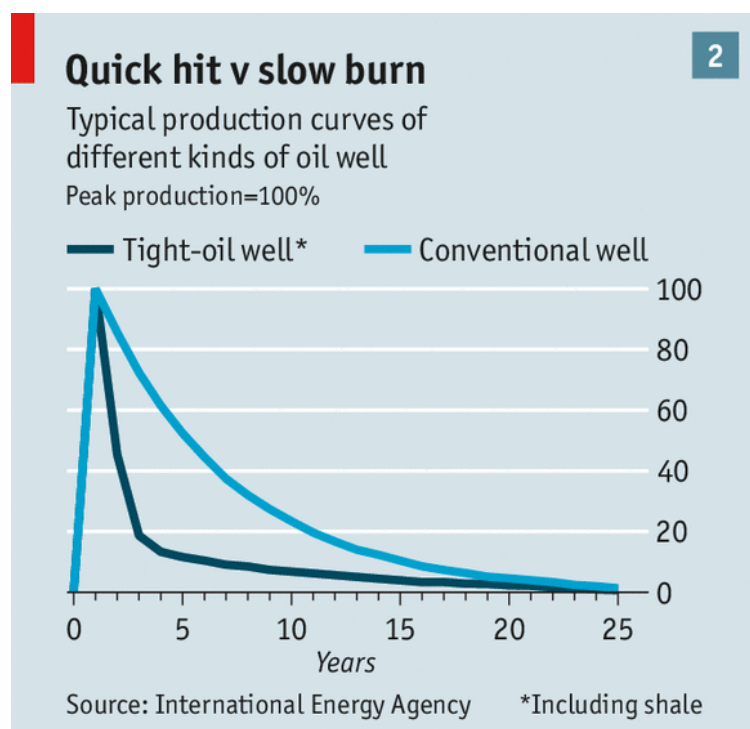
Producing oil from shale is rather expensive. Since oil flows significantly slower through the shale’s impermeable tight rock compared to much more porous rocks of the conventional oil fields, shale wells tap smaller areas of the oil field, and production in each shale well declines faster. The shale well produces most of its oil during the first three years of operation, while production declines by 30% per year.² As **Chart 7** demonstrates, the shale well’s production drops to the level of less than 20% of the maximum by the end of Year 3, while the conventional well’s oil production declines to this level by the end of Year 11. This fast decline in

² The Economist, “The Economics of Shale Oil: Saudi America”, February 15, 2014.

shale wells' production levels leads to the need of drilling new wells every two or three years. This oil production methodology became known in business and media sources as the “Drill, Baby, Drill”.

As a result of the almost constant need to drill, the cost of the shale oil production is much higher than that of the conventional fields. According to the Citigroup's estimates, costs of production range from \$40 to \$70 in Eagle Ford Shale in Texas and Bakken Shale in North Dakota, and from \$40 to \$80 in Permian Basin.³ Despite a rapid decline in the cost of oil production in a typical shale project from \$70 per barrel in 2013 to \$57 per barrel in 2014, this 2014 cost is still much higher than that of the price of a barrel produced from a conventional field.⁴ For comparison, the cost of production in Saudi Arabia is estimated to be in the \$10-20 range.⁵

Chart 7. Production Curves of Shale (Tight-Oil) Wells vs. Conventional Wells



Source: *The Economist*, “The Economics of Shale Oil: Saudi America”, February 15, 2014.

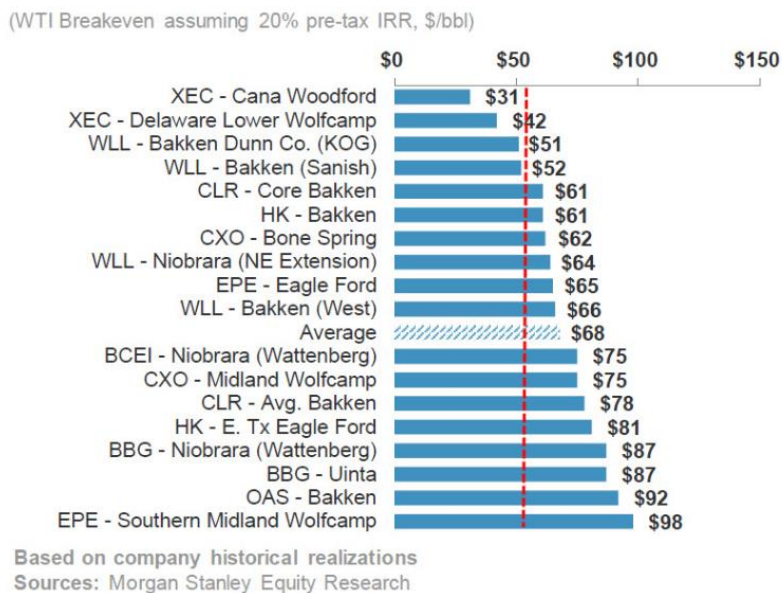
As of December 31, the price of the West Texas Intermediate (WTI) oil was \$55.58, or below the average cost of production of many producers (see **Chart 8**). If prices stay low for some time, many high-cost independent producers in Texas and North Dakota will not be able to turn profits and will go bankrupt.

³ Interview with Ed Morse, Global Head of Commodity Research at Citigroup from the article by Patti Domm, CNBC, “This is the Price That Would Kill U.S. Oil Production Growth”, October 16, 2014.

⁴ Estimates from IHS CERA, a research and consulting firm. The estimates come from *The Economist*, “The New Economics of Oil: Sheikhs v Shale”, December 6, 2014.

⁵ Steve LeVine, Quartz, “Oil patch plot: The real reason Saudi Arabia can afford a price war against US shale”, December 12, 2014.

Chart 8. US Shale Producers Are at Risk, Especially Small- and Mid-Cap Companies



Source: Morgan Stanley, “Crude Oil: 2015 Outlook”, December 5, 2014.

It is important to know that the bankruptcies, and consequential reduction in the amount of oil on the market, will happen only gradually and will be moderated by two factors. First, financial hedges and existing contracts for oil sales could help independent producers to stay afloat in the first half of 2015, even if the price of oil is as low as it is now. Second, the bankruptcies’ trend will be moderated by the fact that the firms that have already invested in building wells have low production costs in the high \$30’s per barrel.⁶ However, this cost advantage is not likely to be long-lasting. As we mentioned before, each shale well produces most of its oil during the first three years of operation, while the production declines by 30% per year. With the current low prices, it does not make economic sense for producers to drill new wells.

b. SMALL INDEPENDENT SHALE PRODUCERS VS. LARGE OIL COMPANIES

What further complicates the competitive cost disadvantage of the relatively small independent shale producers is that they are competing against large companies with more capital that could help them survive during the current period of low oil prices. For example, such oil giants as the US-based Exxon Mobil, Russian state-owned Rosneft, or Saudi state-owned ARAMCO are more likely to survive the current tough stretch than the small shale producers. The cash assets of \$5 billion on the balance sheet of ExxonMobil, the Russian Federation’s foreign currency and gold holdings of \$419 billion, and Saudi Arabian Monetary Agency (SAMA) Foreign Holdings’

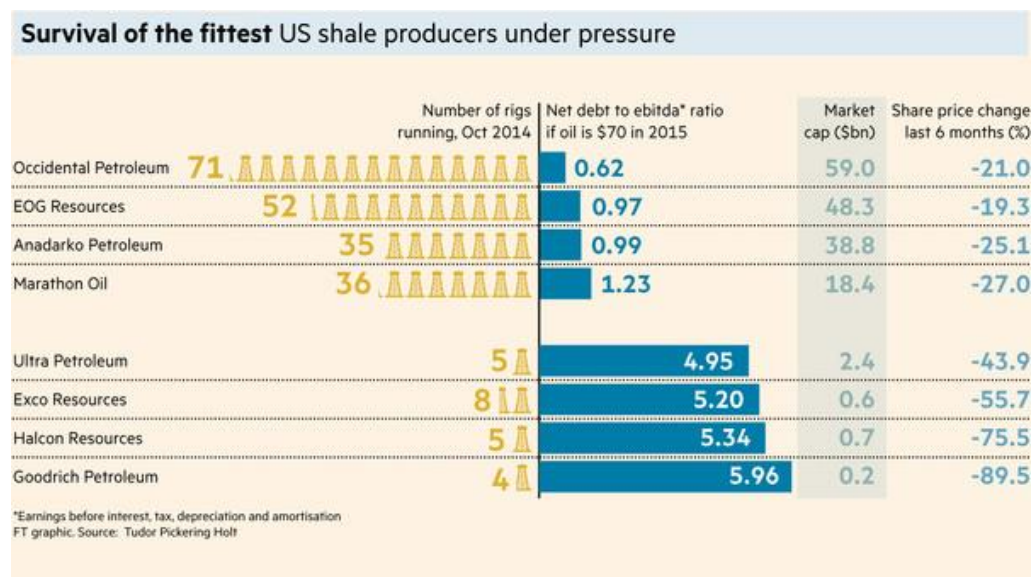
⁶ John Kingston, Platt’s, The Barrel blog, “Ed Morse and His Team on the Oil Price Slide”, October 16, 2014.

assets of \$757 billion are economic cushions that would allow the above mentioned three companies to survive the current oil price correction.⁷

c. HIGH LEVELS OF DEBT

What makes the current low-oil-price situation even more perilous to some US shale producers is that they have high levels of debt. According to the analysis by Tudor Pickering Holt investment bank, due to very high levels of debt a few smaller shale producers are going to be in serious danger of bankruptcy if the average annual oil price reaches \$70 per barrel in 2015 (see the ‘Net Debt to EBITDA Ratio’ column in **Chart 9**). If the average price of oil stays below \$70, these debt ratios would be even higher. As one can see, most of the companies with the highest Net Debt to EBITDA ratios are relatively small and have less than ten oil rigs each (see the ‘Number of Rigs Running’ column in **Chart 9**).

Chart 9. Net Debt to EBITDA Ratios for Some US Shale Producers



Source: Ed Crooks, *The Financial Times*, “US Shale Industry Faces Endurance Test after OPEC Rejects Cuts”, December 9, 2014.

We believe that many of these smaller heavily-indebted producers would not be able to survive the current low-price environment. As it happens with new technologies, from the Internet in the 1990s to the solar energy in the 2000s, when thousands of companies were formed as these new technologies appeared, we expect many shale oil companies created due to the introduction of the hydraulic fracturing and horizontal drilling technologies not to

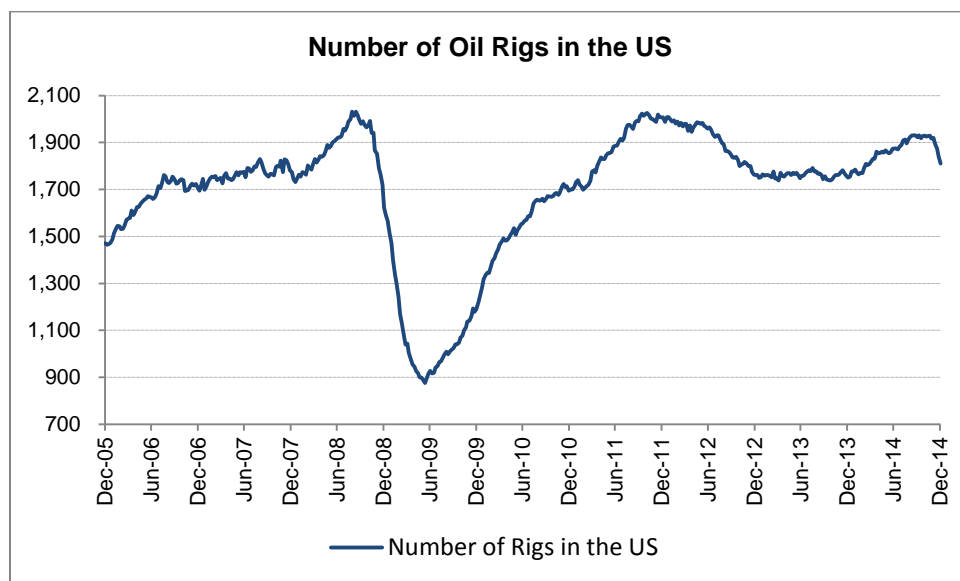
⁷ ExxonMobil’s Cash – Yahoo Finance, ‘Cash and Cash Equivalents’ are \$5.014 billion as of September 30, 2014. Russian Reserves – Central Bank of Russian Federation, “International Reserves of the Russian Federation”, Monthly Value Report as of November 30, 2014. Saudi Arabian Reserves – The Sovereign Wealth Fund Institute, Sovereign Wealth Fund Rankings, downloaded on January 3, 2015.

survive. The companies that would be able to survive the current challenging environment would be financially-strong and operationally-efficient firms.

d. RECENT RIG CLOSING TREND

The trend of closing rigs started on the last day of October 2014. Since then, the number of rigs declined by 118 from 1,929 to 1,811 on January 2, 2015 (see **Chart 10**). We expect this trend to continue until the end of 2015.

Chart 10. Number of Oil Rigs in the United States



Source: Baker Hughes Corporation, Weekly Rig Database. Data as of January 2, 2015.

In addition to the forecasted decrease in the US oil production, there are other factors that could increase the price of oil in 2015. While OPEC decided not to reduce production in November, this decision can be reversed if the price of oil stays low for an extended period of time. Political and military conflicts, present in at least three oil producing areas around the world, can also result in the lower production and higher prices of oil.

B. POTENTIAL OPEC DECISION REVERSAL

Despite deciding not to cut production at the meeting on November 27, OPEC can decide to do it if the cost of keeping the low price of oil turns out to be too high. As we mentioned before, we believe that the current price war could help OPEC to bankrupt a few US shale producers, reduce supply this way and, ultimately, increase the price of oil. OPEC Arab members believe that oil will increase to the \$70-80 range by the end of 2015, when the last salvos of the economic hostilities are a thing of the past.⁸

⁸ Rania El Gamal, Reuters, “Exclusive: Arab OPEC Sources See Oil Back Above \$70 by End-2015”, December 23, 2014.

In the meantime, all OPEC members will suffer from lower revenues. Saudi Arabia, OPEC's largest oil producer and the organization's de-facto leader, has recently passed its 2015 government budget with a huge deficit, where spending exceeds revenues by almost 17%.⁹ While richer countries, such as Saudi Arabia, Kuwait, Qatar, and the United Arab Emirates have massive reserves stashed away for a rainy day in their Sovereign Wealth Funds, poorer members of OPEC might face not only acute economic difficulties, but also political and social challenges. Governments of the latter group of countries understand that the anger of poor people who do not have means to afford simple economic necessities might lead to social disturbances. In 2011, this anger was one of the main reasons for the "Arab Spring" rebellions in a number of countries. For example, the oil industry of Libya, one of OPEC's member countries, was decimated by a rebellion and the civil war that followed (see a section on Libya below). As a result of understanding potential economic and political difficulties, two of the poorer OPEC members, Venezuela and Algeria, were calling for output cuts of as much as 2 million barrels per day before the meeting on November 27.¹⁰

What might have contributed to a decision not to cut the organization's oil production was the fact that in addition to pure market or business goals of eliminating non-OPEC competitors (e.g. the US shale producers), some OPEC countries could achieve political goals at the expense of other OPEC members. For example, Saudi Arabia and Iran are rival countries that vie for the leadership in the Muslim world. They have competed on a number of issues in a number of countries, with the Syrian civil war being the most important one at this time. Saudi Arabia and its Arab allies, such as Kuwait and the United Arab Emirates, support Sunni rebels, while Shia Iran supports President Bashar Assad's regime. President Assad is a member of the Alawite religious group, a branch of Shia Islam. The low price of oil affects Iran more than it affects Saudi Arabia, Kuwait and the United Arab Emirates because western sanctions imposed in response to Iran's nuclear program have already reduced Iran's ability to export oil, and, consequently, its financial resources.¹¹ The current low price of oil means that Iran would have more difficulty supporting the Assad regime in Syria, which is the goal of Saudi Arabia and its allies.

In our estimate, OPEC can make a quick decision to reverse its course and cut production if the price of oil stays low for an extended period, i.e. more than six months. This cut would happen if the poorer OPEC member countries (such as Algeria, Angola, Iran, Nigeria, Ecuador or Venezuela) put too much pressure on the Saudis and their wealthy allies. Any production-cutting move by OPEC, no-matter how insignificant, would result in higher oil prices.

C. RUSSIA (WORLD'S 2ND LARGEST OIL PRODUCER): AUTOMATIC REDUCTION OF PRODUCTION

Russia, which is facing Western sanctions for its annexation of the Crimean Peninsula and support of rebels in eastern Ukraine, is another major oil producing country that might not be able to reach its 2014 oil production levels in 2015. According to Russian Energy Minister Aleksandr Novak, "Oil companies in Russia may decide not to invest in projects due to lower prices, which would 'automatically' reduce production in the country".¹² If

⁹ AFP, "Saudi Projects Huge Deficit as Oil Price Drop Bites", December 25, 2014.

¹⁰ Alex Lawler, David Sheppard and Rania El Gamal, Reuters, "Saudis Block OPEC Output Cut, Sending Oil Price Plunging", November 27, 2014.

¹¹ Maria Galucci, International Business Times, "How Russia, Iran and Other Oil-Rich Nations Will be Slammed by Falling Crude Oil Prices", October 30, 2014.

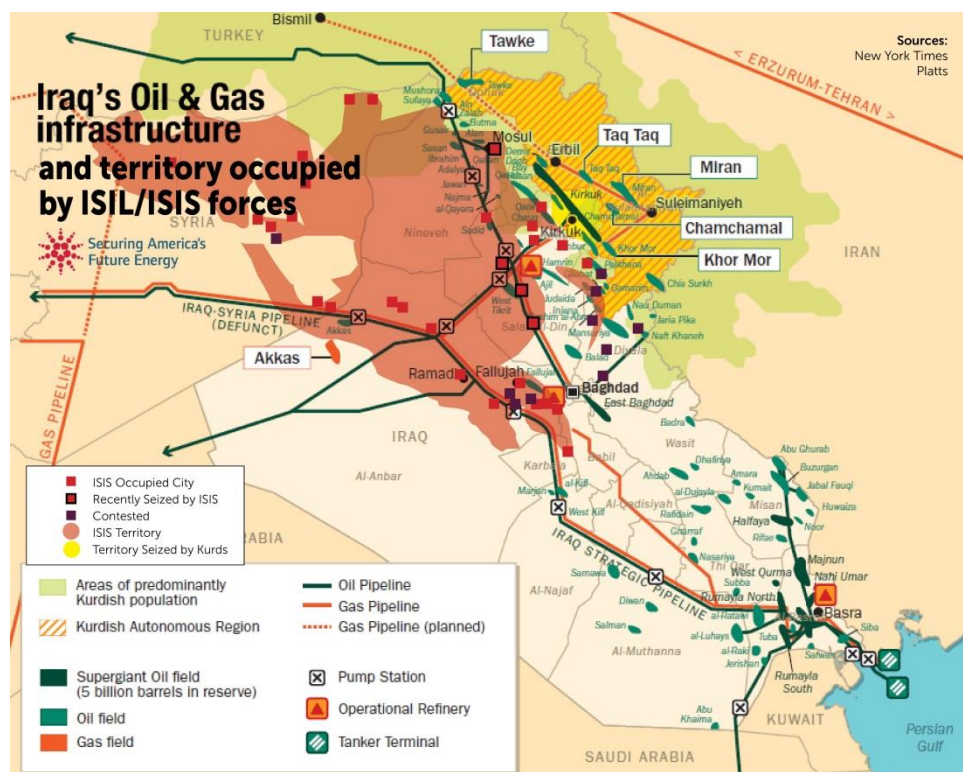
¹² RT Business, "Russia May 'Automatically' Cut Oil Output – Energy Minister", December 16, 2014.

they can, the Russians are likely to try to maintain their production at the 2014 level. However, they plan to decrease their exports to the world market by refining more oil at home for domestic consumption.¹³ This decrease in the volume of crude oil exports would lead to the higher price of oil. Minister Novak predicted that the price of oil would recover to the \$85-90 range after the current price slide would be over.¹⁴

D. IRAQ (WORLD'S 6TH LARGEST OIL PRODUCER): ISIS DANGER TO OIL PRODUCTION

Despite the resistance of Iraqi army and Kurdish militias supported by the US airstrikes, ISIS still controls wide swaths of Iraqi and Syrian territories with a few large oil fields (see **Chart 11**). Luckily, most of Iraq's oil fields are in the south of the country, relatively far from the areas controlled by ISIS. However, if ISIS extends its control to massive oil fields near Kirkuk, this oil will be lost to the global markets. In this unfortunate scenario, this oil would probably find way to Turkey at heavily discounted prices through the black market channels that ISIS has been employing since capturing other fields in Iraq.¹⁵ Any significant decrease of Iraqi exports to the world's markets would lead to a higher price of oil.

Chart 11. Iraq's Oil & Gas Infrastructure and Territory Occupied by ISIS.



Source: Max Fisher and Zach Beauchamp, Vox, "14 Maps That Explain ISIS", September 25, 2014.

¹³ Ibid.

¹⁴ Ibid.

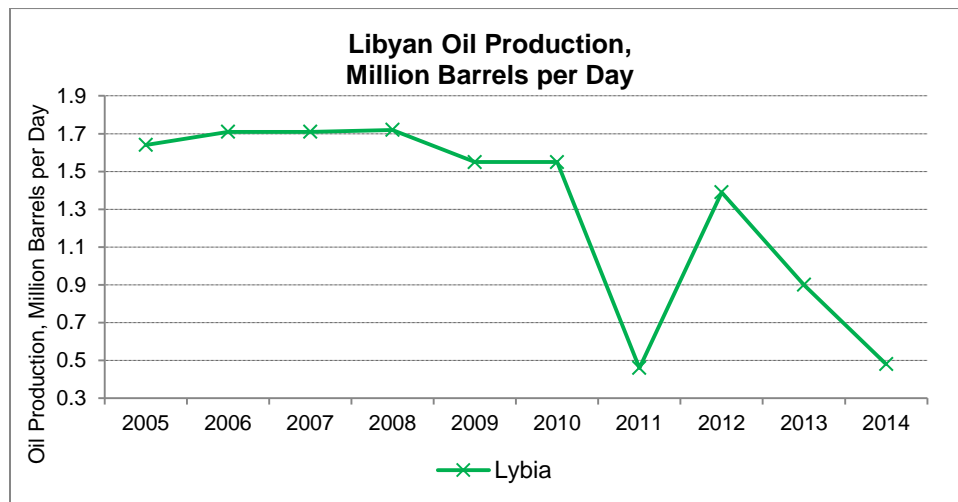
¹⁵ Read about ISIS oil trade with Turkey in the article by David E. Sanger and Julie Hirschfeld Davis, The New York Times, "Struggling to Starve ISIS of Oil Revenue, U.S. Seeks Assistance From Turkey", September 13, 2014.

**E. LIBYA (WORLD'S 15TH LARGEST PRODUCER¹⁶):
CIVIL WAR DECIMATES OIL PRODUCTION**

After Moammar Qaddafi, the Libyan dictator who ruled the country for almost 42 years, was overthrown in 2011, the country has been in a state of flux. Currently, there is no single authority in the country. There are actually two governments there. The democratically elected government, which is recognized internationally, was forced to run to the east of the country. It is fighting Islamist militias and forces of the new government that is now based in the capital of Tripoli, which these militias support.

The civil war has not been kind to the Libyan oil industry. Just at the end of December 2014, the Islamist supported government in Tripoli tried to take control of the largest oil port Es Sider from the internationally recognized government operating from the east of the country. In the process of the attack, a shell hit a giant oil terminal and a fire ensued.¹⁷ As a result, Libya lost around 1.8 million barrels or more than \$105 million.¹⁸ The fire was so strong that the eastern government had to hire a US firefighting team for another \$6 million.¹⁹ As a result of the “Arab Spring” rebellion and the civil war that followed, the Libyan oil production declined dramatically from 1.6 million barrels per day in 2010 before the war to 0.5 million barrels in 2014 (see **Chart 12**). This oil production level might decrease further due to the ongoing civil war.

Chart 12. Libyan Oil Production, Million Barrels per Day



Source: International Energy Agency (IEA), Oil Market Reports. Data from December 31, 2005 to December 31, 2015.

¹⁶ Source: The International Energy Agency (IEA), Oil Market Reports. The ranking is based on Libya's production in 2010 before the civil war started in 2011. In 2014, Libya dropped from the list of the top 25 largest producers. Based on the IEA data for the first 11 months of 2014 and our forecast of Libya's production in December, we estimate that Libya is only the 27th largest oil producer in the world.

¹⁷ Reuters, “Libya sees more progress in extinguishing fire at eastern oil terminal”, January 1, 2015.

¹⁸ Ibid.

¹⁹ Ibid.

While OPEC usually covers fall of oil production by one of its members by the end of the quarter when this fall happens or during the following quarter, the abrupt fall of the Libyan or Iraqi production in 2015 can become a catalyst for the oil price bottoming.

3. PRICE OF OIL FORECAST

As we explained earlier in this report, we believe that the oil oversupply will decline by the end of 2015. We forecast that the price of oil will reach \$60 to \$80 per barrel by the end of the year. This increase in the price of oil makes us believe that earnings of oil and energy companies are likely to increase in 2015 and 2016. This would lead to increases in prices of ETFs of oil-producing countries. The fact that many of these ETFs are trading at low valuations compared to their history makes them even more attractive.

As always, please do not hesitate to contact us if you would like us to manage your money, or have any questions about our services, investment thinking or reports.

Sincerely,

Vitaly Veksler

CEO and Portfolio Manager